

List of stick and leaf-insect (Phasmatodea = Phasmida) type material in the Natural History Museum, published since Kirby's 1904 Catalogue.

Paul D. Brock, "Papillon", 40 Thorndike Road, Slough, SL2.1SR.

Key words

Natural History Museum, Type specimens, Kirby.

Summary

A listing is given of all Phasmatodea type material (64 species and 1 subspecies) deposited in the Natural History Museum, London, following publication of Kirby's 1904 Catalogue of all species. Details of the number of specimens and data are also provided, along with general taxonomic and relevant comments for this understudied order. References are included at the end of this work.

Introduction

Anyone seriously interested in studying the taxonomy of Stick and Leaf-insects (Phasmatodea) needs to examine type material in museums. Kirby's 1904 Catalogue of species includes reference to type specimens lodged in the BM(NH). These are mainly species described by such well known authors as Westwood, Gray and Kirby himself. Unfortunately the Catalogue was not referred to at all by Brunner von Wattenwyl and Redtenbacher's parts of a huge monograph on the Phasmatodea published in three parts between 1906-1908. Kirby's Catalogue is valuable in that it includes details of synonyms ignored by Brunner and Redtenbacher, although these need to be carefully checked against original descriptions in the literature and type specimens, if available.

In Kirby's Catalogue BM(NH) type material is marked **. An examination of the collection revealed that there is type material in the collection described before 1904, but not marked ** in Kirby. This type material is as follows, referring to Kirby's page reference: *Diapheromera femorata* (Say) 346, *Heteronemia striata* (Burmeister) 348, *Bactrododema aculiferum* Kirby 366, *Ophicrania phlyctaenoides* (Rehn) 384, *Graeffea crouanii* (Le Guillou) 386, *Cotylosoma dipneusticum* Wood-Mason 407 (note - *C. carlottae* Macgillivray: specimens are not types as stated by Kirby), *Prexaspes ambiguus* (Stoll) 414, *Presbistus nebulosus* (Westwood) 419. Whilst some of the above relate to omissions in the Catalogue, I believe some type material may have come to light after 1904.

The BM(NH) collection is one of the major reference points to study of Phasmatodea and since 1904, type material consisting of 64 new species and 1 new subspecies has been added to the collection. The list provided, which includes details of data and number of specimens, should be very useful to researchers. Many of the specimens are the Central and South American material from the Godman-Salvin collection. These are listed in Brunner and Redtenbacher's monograph as "coll. Godman", on occasions referring to the wrong Country e.g. Mexico instead of Guatemala.

The majority of Brunner and Redtenbacher's type material is deposited in the Naturhistorisches Museum, Vienna, Austria and only a very few species have been added to that collection since publication of the monograph. Likewise, the Oxford University Museum collection includes very little material obtained after Westwood's spell as curator. Westwood's 1859 book describes many of the insects housed in the BM(NH) and OUM. The three museums mentioned include the vast majority of Phasmatodea type material, which generally include little data, specimens dating from the 1800's to early 1900's. It is worth pointing out that the BM(NH) collection contains a significant number of specimens collected after 1908 and much is yet to be classified.

The Listings

I have used a similar format to Kirby's work, but included, in addition, details of the number of type specimens and data. The list has been ascertained by identifying labelled type material in the BM(NH) collection described after 1904. A cross-check has been made by referring to the species card index at the museum and consulting Brunner & Redtenbacher's work for details of Godman's material. On page 336 Brunner states that the type of *Heteronemia foliata* (Brunner) is in the Godman collection, but the Holotype is housed in the Vienna museum collection.

Species are listed alphabetically within a genus in the order of Bradley and Galil (1977), mentioning relevant Families and Subfamilies.

Localities are as listed on data labels. Comparing these with modern maps, for instance, certain localities in the Vera Paz region of Guatemala are spelt slightly differently, as follows: Purula = Purulha, Geronimo = Jeronimo.

The Natural History Museum was formerly known as the British Museum (Natural History) and to confuse matters the collection may still be referred to as the BM(NH) collection. The current BM(NH) cabinet drawer number is given, in square brackets, before details of the type(s) and localities; all drawers are in series 3 of the Museum's Orthoptera section (where there is no number in the brackets the specimens have not yet been moved into the main collection). If known, the collector's name follows e.g. (Champion). I have also indicated where I consider specimens are nymphs.

Definitions of terms used:

holotype - The single specimen designated as "The Type" by the original author at the time of publication of the original description, or the only specimen known at the time of the original description.

paratype - A specimen other than the holotype which is before the author at the time of the original description and which is designated as such, or is clearly indicated as being a specimen upon which the original description was based.

syntype - One of several specimens on which an author bases an original description when no single specimen is designated as the holotype.

lectotype - One of a series of syntypes which is selected subsequent to the original description and thenceforth serves as the definitive "Type" of the series. In order to be effective such selection must be made known through publication.

SUBORDER ANAREOLATAE
FAMILY HETERONEMIIDAE
SUBFAMILY HETERONEMIINAE

CALYNDA Stål

C. quadrilobulata Brunner, 1907: 329

[47a] ♀ holotype COSTA RICA (van Patten).

DIAPHEROMERA Gray

D. furcata Brunner, 1907: 336.

[37] 2♂♂ & 1♀ syntypes MEXICO: Venta de Zopiloto, Guerrero (H.H. Smith) [note - the second, much smaller ♂ marked syntype is clearly a different species - but Brunner has included it in the type description i.e. 2 ranging in size "56-106mm".]

HETERONEMIA Gray [= **BACUNCULUS** Burmeister]

- H. carinulata* (Brunner, 1907): 334 (*Bacunculus carinulatus*).
 [38a] 2♂♂ syntypes MEXICO: Ciudad; Sierra de las Aguas Escondidas, Guerrero
- H. elongata* (Brunner, 1907): 335 (*Bacunculus elongatus*).
 [38a] ♂ holotype MEXICO: Dos Arroyos, Guerrero (H.H. Smith)
- H. godmani* (Brunner, 1907): 334 (*Bacunculus godmani*).
 [38a] 2♂♂ syntypes MEXICO: Amula, Guerrero (H.H. Smith)
- H. incongruens* (Brunner, 1907): 336 (*Bacunculus incongruens*).
 [38b] 8♂♂ syntypes GUATEMALA: Senahu, Vera Paz (x6); Teapa, Tabasco (x1); Purula, Vera Paz (x1) (all = Champion)
- H. picta* (Brunner, 1907): 333 (*Bacunculus pictus*).
 [38a] 2♂♂ syntypes GUATEMALA: Senahu, Vera Paz (Champion); MEXICO: Atoyac, Vera Cruz (Schumann) [note - the ♂ from Atoyac appears to be a distinct species]
- H. praetermissa* (Brunner, 1907): 333 (*Bacunculus praetermissus*).
 [38a] 2♂♂ syntypes GUATEMALA: Geronimo (Champion); COSTA RICA (van Patten)
- H. unidentata* (Brunner, 1907): 334 (*Bacunculus unidentatus*).
 [38a] 2♀♀ syntypes (nymphs) MEXICO: Atoyac, Vera Cruz (Schumann); Jalisco (Schumann) [note - Brunner describes a ♂ adult and ♀ nymph - locality given Vera Cruz]

OCNOPHYLLA Brunner

- O. ciliata* Brunner, 1907: 313.
 [35] ♀ holotype MEXICO: Amula, Guerrero (H.H. Smith)
- O. godmani* Brunner, 1907: 314.
 [35] 1♂ & 1♀ syntypes GUATEMALA: ♂ Senahu; ♀ Purula, Vera Paz (Champion)
- O. meditans* Brunner, 1907: 313.
 [35] ♀ holotype GUATEMALA: Purula, Vera Paz (Champion)
- O. ornatissima* Brunner, 1907: 312.
 [35] 1♀ syntype (nymph?) GUATEMALA: San Juan, Vera Paz (Champion)

PARADIAPHEROMERA Brunner

- P. armata* Brunner, 1907: 317.
 [35] ♂ holotype PANAMA: V. de Chiriqui (Champion)

LIBETHRA Stål

- L. elegantior* Brunner, 1907: 308.
 [34] ♀ holotype MEXICO: Omilteme, Guerrero (H.H. Smith)

PSEUDOBACTERIA Saussure (= **DYME** Stål)

- P. depressa* (Brunner, 1907): 327 (*Dyme depressa*).
 [39a] 3♀♀ syntypes (nymphs) GUATEMALA: Las Mercedes (x1); Purula, Vera Paz (x1); Cerro Zunil (x1) (all - Champion)
- P. discors* (Brunner, 1907): 324 (*Dyme discors*).
 [39] 4♂♂ syntypes PANAMA: V. de Chiriqui (Champion)
- P. incolumis* (Brunner, 1907): 326 (*Dyme incolumis*).
 [39a] ♂ holotype GUATEMALA: Parzos, Vera Paz (Champion)
- P. irregulariterspinosa* (Brunner, 1907): 328 (*Dyme irregulariterspinosa*).
 [39a] ♀ holotype GUATEMALA: Purula, Vera Paz (Champion)
- P. modesta* (Brunner, 1907): 324 (*Dyme modesta*).
 [39a] ♂ holotype PANAMA: V. de Chiriqui (Champion)

SUBFAMILY LONCHODINAE

CARAUSTUS Stål

C. gardineri Bolivar (in Bolivar and Ferrière), 1912: 296.

[3] 1♂ & 1♀ syntypes SEYCHELLES: Mahé V-XII 1905 (J.S. Gardiner - Percy Sladen Trust Expedition)

C. scotti Ferrière (in Bolivar and Ferrière), 1912: 297.

[3] ♂ holotype SEYCHELLES: Silhouette, near Mont Pot-à-eau VIII 1908 (Percy Sladen Trust Expedition)

PERICENTRUS Redtenbacher

P. multilobatus Redtenbacher, 1908: 352.

[148a] 2♂♂ syntypes COSTA RICA: R. Susio (H. Rogers) [not "Chiriqui" as mentioned by Redtenbacher]

SUBFAMILY NECROSCIINAE

APORA Brunner

A. laetior monticola Günther, 1944: 78.

[106] 1♂ paratype BORNEO: Sarawak, Mt. Kalulong 3 XI 1932 (Hobby & Moore, Oxford University Expedition)

CENTEMA Redtenbacher

C. longipennis Günther, 1944: 78.

[89a] ♂ holotype BORNEO: Sarawak, R. Kapah, Trib. of R. Tinjar 24 IX 1932 (Hobby & Moore, Oxford University Expedition)

SUBFAMILY PACHYMORPHINAE

BURRIA Brunner

B. brachyxipha Uvarov, 1939: 556.

[26] ♀ holotype, 2♀♀ paratypes YEMEN: Aden (Major Yerbury) =holotype; Ktubu (nymph?) (G.W. Bury); Talha 2 XII 1936 (H.St.J. Philby)

RAMULUS Saussure

R. dicranurus (Uvarov, 1939): 558 (*Gratidia dicranura*).

[22b] ♂ holotype, 21♂♂, 12♀♀ paratypes [although paper states 19♂ and 9♀, Uvarov may have excluded nymphs] SAUDI ARABIA: Desert East of Sheikh Othman IV-X 1932 (Mrs M.C. Rant)

R. hebraicus (Uvarov, 1939): 226 (*Gratidia hebraica*).

[22] ♀ holotype ISRAEL: Mt. Carmel, 1938 (J. Palmon) [a synonym of *Ramulus libanicus* (Uvarov) - Brock 1991: 39]

R. kurdus (Uvarov, 1944): 64 (*Gratidia kurda*).

[22] ♂ holotype, 1♀ paratype IRAQ: Zakho Gorgo, N. of Mosul 7 X 1942 (F. Bodenheimer)

R. longefurcatus (Chopard, 1954): 113 (*Gratidia longefurcata*).

[22a] ♂ holotype KENYA: Isiolo III 1944 (Mrs J. Adamson)

R. manderensis (Chopard, 1954): 114 (*Gratidia manderensis*).

[22] ♂ holotype KENYA: Damassa, Mandera district 9 XII 1944 (D.K. Kevan)

R. schizurus (Uvarov, 1939): 559 (*Gratidia schizura*).

[22] ♂ holotype SAUDI ARABIA: Hadramaut (Mr Bent's Expedition)

R. turcus (Karabag, 1955): 98 (*Gratidia turca*).
 [22b] ♀ holotype TURKEY: Hatay 25 VII 1952 (O.N. Gülen) [a synonym of *Ramulus libanicus* (Uvarov) - Scali, Mantovani & Marescalchi 1990: 65]

SUBFAMILY PALOPHINAE

PALOPHUS Westwood

P. alldridgei Kirby, 1905: 279.

[75] ♂ holotype SIERRA LEONE: Bonthe, Sherbro 1904 (T.J. Alldridge)

FAMILY PHASMATIDAE
SUBFAMILY BACTERIINAE

BOSTRA Stål

B. amplexans Redtenbacher, 1908: 409.

[39b] ♂ holotype COSTA RICA: Cache (H. Rogers)

B. championi Redtenbacher, 1908: 410.

[39b] ♂ holotype GUATEMALA: Cahabon, Vera Paz (Champion)

B. godmani Redtenbacher, 1908: 411.

[39b] 1♀ syntype GUATEMALA: Zapote (Champion)

B. lobata Redtenbacher, 1908: 408.

[39b] ♀ holotype PANAMA: V. de Chiriqui (Champion)

B. magistralis Redtenbacher, 1908: 410.

[39b] ♀ holotype GUATEMALA: Panzos, Vera Paz (Champion)

B. similis Redtenbacher, 1908: 412.

[39b] ♀ holotype MEXICO: Jalisco (Schumann)

B. tridenticulata Redtenbacher, 1908: 411.

[39b] ♀ holotype MEXICO: Acaguizolta, Guerrero (H.H. Smith)

BACTERIA Latreille

B. subvolans Redtenbacher, 1908: 416.

[46] ♂ holotype PANAMA: V. de Chiriqui (Champion)

B. zehntneri Redtenbacher, 1908: 421.

[47aa] 1♀ syntype MEXICO: Atoyac, Vera Cruz (Schumann)

HESPEROPHASMA Rehn

H. lobata (Redtenbacher, 1908): 355 (*Phantasis lobata*).

[148a] ♀ holotype PANAMA: V. de Chiriqui (Champion)

PTERINOXYLUS Audinet-Serville

P. spinulosus Redtenbacher, 1908: 428.

[68] 1♂ syntype PANAMA: V. de Chiriqui (Champion)

RHYNCHACRIS Redtenbacher

R. ornata Redtenbacher, 1908: 354.

[148a] ♀ holotype COSTA RICA: R. Susio (H. Rogers)

SUBFAMILY PLATYCRANINAE

GRAEFFEA Brunner

G. seychellensis Ferrière, (in Bolivar and Ferrière) 1912: 299.

[11a] ♀ holotype, 1 ♀ paratype (nymph) SEYCHELLES: Morne Blanc, Mahé (Scott - Percy Sladen Trust Expedition)

HYPOCYRTUS Redtenbacher

H. substrumosus Redtenbacher, 1908: 357.

[148a] 1 ♀ syntype MEXICO: Rinconada (Shaus)

SUBORDER AREOLATAE

FAMILY BACILLIDAE

SUBFAMILY BACILLINAE

BACILLUS Latreille

B. cyprius Uvarov, 1936: 505.

[25] ♀ holotype CYPRUS: Halefqa 31 V 1931 (H.M. Morris) [Scali (personal correspondence 1992) considers this is almost certainly a subspecies of *Bacillus atticus* Brunner, which it closely resembles in all stages. Research by Italian workers is on-going]

FAMILY PSEUDOPHASMATIDAE
SUBFAMILY ASCHIPHASMATINAE

PRESBISTUS Kirby

P. inexpectatus Klante [marked "1967" but apparently unpublished, and therefore excluded from the total number of types already given. Bragg believes the museum specimen is a synonym of another *Presbistus* species].

[165] 1 ♂ marked "paratype" BORNEO: Sarawak 1909 (C.J. Brooks)

SUBFAMILY PSEUDOPHASMATINAE

DAJACA Brunner

D. filiformis Bragg, 1992.

[] ♀ holotype SARAWAK: Bako N.P., 50m. 20 VIII 1989 (P.E. Bragg)

DAMASIPPUS Stål

D. fuscipes Redtenbacher, 1906: 147.

[156] 1 ♂ syntype PANAMA: Bugaba (Champion)

PRISOPUS Latreille

P. fisheri Gahan, 1912: 54.

[155] ♀ holotype BRAZIL: Xapury, Amazon Valley (F.G. Fisher)

ISAGORAS Stål

I. dentipes Redtenbacher, 1906: 134.

[162] 2 ♂♂ syntypes PANAMA: Bugaba; V. de Chiriquí (Champion)

I. plagiatus Redtenbacher, 1906: 135.

[162] 1 ♂ syntype PANAMA: V. de Chiriquí (Champion)

METRIOPHASMA Uvarov

M. iphicles (Redtenbacher, 1906): 140 (*Metriotes iphicles*).

[163] 1♂ syntype PANAMA: Bugaba (Champion)

AGROSTIA Redtenbacher

A. amoena Redtenbacher, 1906: 110.

[159] 3♂♂ syntypes PANAMA: Bugaba (x2); V. de Chiriqui (x1) (all - Champion)

BRIZOIDES Redtenbacher

B. graminea Redtenbacher, 1906: 113.

[159a] ♀ holotype PANAMA: Bugaba (Champion)

B. lacteipennis Redtenbacher, 1906: 113.

[159a] 1♂ & 1♀ syntypes PANAMA: Bugaba (Champion) [stated by Redtenbacher to be in "own collection", but should have also referred to Godman's collection]

B. nigricornis Redtenbacher, 1906: 112.

[159a] 3♀♀ syntypes PANAMA: Bugaba (x2); V. de Chiriqui (x1) (Champion)

CHLOROPHASMA Redtenbacher

C. hyalina Redtenbacher, 1906: 114.

[159a] ♀ holotype PANAMA: Bugaba (Champion)

HOLCA Redtenbacher

H. proxima Redtenbacher, 1906: 114.

[159a] ♀ holotype COSTA RICA: R. Susio (H. Rogers)

STRATOCLES Stål

S. soror Redtenbacher, 1906: 106.

[157a] ♂ holotype NICARAGUA: Chontales (Janson)

TENERELLA Redtenbacher

T. tenerrima Redtenbacher, 1906: 109.

[159a] 1♂ syntype PANAMA: Bugaba (Champion)

PARANISOMORPHA Redtenbacher

P. insignis Redtenbacher, 1906: 90.

[154] 1♀ syntype COSTA RICA: R. Susio (H. Rogers)

FAMILY PHYLLIIDAE

PHYLLIUM Illiger

P. magnificum Brock, 1993 in press.

[] ♀ holotype WEST MALAYSIA: Tapah Hills, Cameron Highlands, Pahang IV 1991 (T.F. Wong)

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